

CHAI
Appl. No. 10/567,927
November 26, 2008

REMARKS/ARGUMENTS

Reconsideration of this application is requested. Claims 23-44 are in the case.

I. THE 35 U.S.C. §112, FIRST PARAGRAPH, REJECTIONS

Claims 22-44 stand rejected under 35 U.S.C. §112, first paragraph, on alleged lack of enablement grounds. The Action asserts that the unit of measure for the concept "melt index" is not enabled by the disclosure. The rejection is respectfully traversed.

The specification (page 21) notes that the melt index ($190^{\circ}\text{C}/2.16\text{ kg}$) is disclosed as being measured according to ISO 1133. Tables 1, 2 and 3 report the values for melt index in units of g/10 ml. In light of this disclosure, and without conceding to the rejection, the independent claims have been amended to specify a melt index ($190^{\circ}\text{C}/2.16\text{ kg}$) in the range 5 to 50 g/10 ml. Withdrawal of the lack of enablement rejection is respectfully requested.

Claims 22-44 stand rejected under 35 U.S.C. §112, first paragraph, because the specification, while enabling for polymers having melt indices, allegedly does not reasonably provide enablement for any type of unit for the melt index measurement. In response, it is believed that this rejection has been obviated by the claim amendments discussed above. Withdrawal of the rejection is respectfully requested.

II. THE 35 U.S.C. §112, SECOND PARAGRAPH, REJECTIONS

Claims 22-44 stand rejected under 35 U.S.C. §112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject

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matter in regard to the melt indices. This rejection has been obviated for the reasons discussed above.

Claim 24 has been objected to in view of the density being expressed as a bare number. Claim 27 has been objected to because the expression of flow activation energy, as a bare number, allegedly renders the claim vague and confusing.

In response, with reference to claim 24, the units of density recited in claims 23, 37, 43 and 44 are the same density units for claim 24. Claim 24 has been amended accordingly.

With regard to claim 27, Tables 1, 2 and 3 report the flow activation energy in units of kJ/mol. Claim 27 has been amended accordingly.

Withdrawal of the formal rejection is respectfully requested.

III. THE PRIOR ART REJECTION

Claims 23-44 stand rejected under 35 U.S.C. §102(e) as allegedly anticipated by or, in the alternative, under 35 U.S.C. §103(a) as allegedly obvious over Chum *et al.* (US 6,723,398). That rejection is respectfully traversed.

The claimed invention is directed to a polymer blend comprising (a) 1 - 99% by weight of a copolymer of ethylene and an alpha olefin having from 3 to 10 carbon atoms, in which copolymer has (i) a density in the range 0.905 to 0.940 g cm⁻³, (ii) a melt elastic modulus G' (G'' = 500 Pa) in the range 10 to 150 Pa, and (iii) a melt index (190°C/2.16 kg) in the range 5 to 50 g/10 ml; and (b) from 1 - 99% by weight of a low density polyethylene (LDPE) comprising a homopolymer of ethylene having a density from 0.914 to 0.928 g cm⁻³, wherein the sum of (a) and (b) is 100 %.

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It will be noted that claims 23, 37, 43 and 44 have been amended to recite that component (b) of the blend is a low density polyethylene (LDPE) comprising a homopolymer of ethylene having a density in the range 0.914 – 0.928 g/cm³. Support for this amendment appears at page 12, line 28 of the specification. Table 2 (page 23) lists 5 LDPE's suitable as component (b) of the blends of the invention. No new matter is entered.

The present invention is therefore directed to blends of (a) copolymer of ethylene and α -olefin and (b) a homopolymer of ethylene. The present blends have been found to be particularly useful for extrusion coating applications (see page 13 lines 29 - page 14 line 9 and claims 43 and 44). As will be clear from the discussion below, neither the blends of the present invention, nor this application of the blends, is disclosed or suggested by Chum.

Chum describes blends of ethylene interpolymers (i.e., at least copolymers), which blends comprise copolymers of ethylene with different comonomers (col. 3, lines 40-57). The blends of Chum are described as useful for film applications, for example high strength thin gauge packaging film, impact resistant shrink film and heat sealable packaging films. Chum contains no suggestion of any usefulness for extrusion coating applications. Table 1 (col. 15) lists the interpolymers (resins A – G) and these are various copolymers of ethylene with 1-butene or 1-octene. Table 2 in Chum shows the blends of the invention based on resins A-G.

As noted in the Action, one of the Chum polymers has a density lower than the other and may be in the range 0.89 – 0.935 g/cm³ (Chum, col. 7, lines 48-57).

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However, as noted above, the blend components of Chum are interpolymers/copolymers of ethylene and α -olefins. No homopolymers are present.

Chum further discloses (col. 7, line 26) that:

"The term 'linear ethylene interpolymer' does not refer to high pressure branched free radical initiated polymethylene (LDPE)". (Emphasis added)

Thus, Chum specifically excludes the homopolymers now defined as component (b) of the presently claimed blends.

In summary, the presently claimed invention is directed to blends of (a) copolymer of ethylene and α -olefin and (b) a homopolymer of ethylene. Chum, on the other hand, discloses blends comprising at least two diverse interpolymers (i.e., copolymers) wherein one interpolymer has a lower number of carbons than the other.

Based on the above, it is clear that the blends as now claimed are not anticipated by Chum. Moreover, one of ordinary skill would not have been motivated to arrive at the presently claimed blends in view of Chum since Chum stresses that the term "linear ethylene interpolymer" does not refer to high pressure branched free radical initiated polymethylene (LDPE), thereby leading away from presently claimed blends comprising homopolymers. Absent any such motivation to formulate the presently claimed blends, a *prima facie* case of obviousness has not been generated in this case. Withdrawal of the prior art rejection is respectfully requested.

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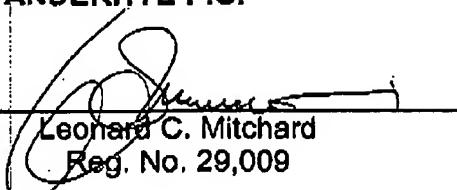
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Favorable action is awaited.

Respectfully submitted,

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